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ABSTRACT

A study examined characteristics of female medical students who indicated an intention to specialize in surgery, traditionally a male-dominated field. Family backgrounds, career motivations, and career orientations from this group were compared with the same characteristics of female medical students selecting other fields of specialization. Data were collected in a national survey of third-year medical students in the spring of 1978. Questionnaires were returned by 1,238 persons from 112 different United States medical schools. The Association of American Medical Colleges provided anonymous background data from the respondents' admission records. Women selecting surgery were more likely never to marry, to have a physician father and homemaker mother, and to have higher family income. Female surgery students decided on a medical career at younger ages, were more certain of their choices of specialization, and were more likely to be interested in a private practice. In regards to career orientation, female surgery students were more likely to state that the desire for financial rewards is important and that physicians need to sacrifice personal time for the sake of their work. They were less likely to report that the time demands of most medical practices are unreasonable. Shown through these characteristics, the women selecting surgery were significantly different from women entering other areas of specialization and were more similar to male medical students. (YLB)

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WHICH FEMALE MEDICAL STUDENTS SELECT A CAREER IN SURGERY*

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WHICH FEMALE MEDICAL STUDENTS SELECT A CAREER IN SURGERY?*

Abstract

In the past decade there has been a dramatic increase in the proportion of women entering medical careers, but a large proportion of women have selected traditionally female specialities (e.g., pediatrics, psychiatry). It has been demonstrated previously there are differences in areas of specialization between male and female medical students. The purpose of this paper is to examine differences among women with regard to selected areas of specialization. Data from a national survey of U.S. medical students reveal significant differences between junior and senior women selecting surgery and women selecting other specializations. Women selecting surgery were more likely to be never married, to have a father who was a physician and homemaker mother, and to have higher family income. Surgery students decided on a medical career at younger ages, were more certain of their choices of specialization and were more likely to be interested in a private solo practice. Differences were also noted in career orientation. The desire for financial rewards was more important to women selecting surgery than those in other specialties. Women in surgery were more likely to agree that physicians need to sacrifice personal life for the sake of their work, and were less likely to report that time demands of most medical practices are unreasonable. In several ways the women interested in purusing the male-dominated field of surgery are significantly different from women entering other areas of specialization and were more similar to male medical students. Perhaps the strong career orientation and background of the pre-surgery women will enable them to experience less conflict and more acceptance in this male-dominated field.

Which Female Medical Students Select a Career in Surgery?

There has been an increase in the number of women entering and graduating from medical school, but the traditionally female fields of pediatrics and psychiatry are still among the most popular areas of specialization (Wallace, 1980). The male-dominated specialization of surgery is still not a very popular field for females. Between 1978-1980 the actual number of women in surgery increased, but the percentage of all women in surgery residencies remained about the same (AMA, 1981).[1]

The specialization difference between males and females is well documented (e.g., AMA, 1981; Burkett and Kurz, 1981; McGrath and Zimet, 1977a; Pennell and Renshaw, 1973). The most common explanations offered for these differences suggest either that women select certain fields in order to minimize the experience of role-conflict in the management of their professional careers or that they select certain fields in response to external pressures from medical school faculty and others who attempt to guide them into suitably "female" career paths (Davidson, 1979). In the light of these explanations one might reasonably wonder whether there are any distinguishing characteristics of women who select a specialty like surgery which has traditionally been especially male-domonated.

This study examines, in particular, the family backgrounds, career motivations, and career orientations of female medical students who have indicated an intention to specialize in surgery. These factors are compared to the characteristics of female medical students selecting other fields of specialization.

METHOD

Data were collected in a national survey of third-year-medical students in the spring of 1978. The Association of American Medical

[1]Actually the percentage slightly declined from 5.5% in 1978 to 5.3% in 1980.

Table 1. Women's Career Orientation

		Agree	Disagree	Total	P
1. Physicianism even more than other professionals, need to be willing to sacrifice their personal life for the sake of their work.					
Surgery	N	16	11	27	
	%	(59.3)	(40.7)	(4.9)	
					.03
Other	N	202	319	521	
	%	(38.8)	(61.2)	(95.1)	
2. The time demands of most medical practices are unreasonable.					
Surgery	N	10	17	27	
	%	(37.0)	(63.0)	(4.9)	
					.000
Other	N	377	133	510	
	%	(73.9)	(26.1)	(95.0)	

Colleges (AAMC) assisted in the selection of a stratified random sample and in conducting the mailings. Disproportionate sampling fractions were used to over-represent women and minorities. The sample was drawn from the population of students who entered medical school during 1975-76 and consisted of 1,743 students. A few (38) could not be contacted by mail. Usable questionnaires were returned by 1,238 persons, providing an adjusted response rate of 72.6%. Respondents were from 112 different U.S. medical schools. In addition to the questionnaire data, the AAMC provided anonymous background data from the respondents' admissions records.

This report consists of a partial analysis of the subsample of female respondents. Adjustments were made to correct for the original over-sampling of ethnic minorities. Eventhough the influence of ethnicity is interesting it is not analyzed in this report. Therefore, randomly selected minority respondents have been omitted from this sample to amke the minority representation proportional to the minority representation in the medical student population. The subsample analyzed for this report consists of 551 female medical students.

Third-year medical students were surveyed in this study because their socialization as a medical student has been more lengthy than first- or second year students. In addition, senior students at many medical schools are so geographically scattered that a mail survey would not be very successful.

Survey Findings

A number of significant differences were noted between the five percent (27) of the women selecting surgery as a specialization and women selecting other areas of specialization. The most relevant findings are discussed.

Family Status

Not surprisingly, most women in our sample were never married. However, we found that surgery students were more likely to be never married (85 percent vs 65 percent) than were women who selected other

other areas of specialization (P less than .05). We did not attempt to measure intent or desire to marry, therefore no comment can be made in this respect. However, the high proportion of never married women does indicate a postponement of marriage.[2]

Family background differences were found between women selecting surgery and those selecting other specialities. The surgery students (26 percent) were more likely than the other women (eight percent) to have fathers who were physicians (P less than .01) and mothers who were homemakers (70 percent and 44 percent respectively, P = .01). Not surprisingly, the family incomes of the surgery students were higher. Based on 1972 family income, 73 percent of the surgery students had family incomes over $20,000 but only 42 percent of the other students had such high family incomes (P less than .01).

Career Decision and Plans

Women planning to specialize in surgery tended to have selected medicine at an earlier age and were more certain of their choice of specialty than were women planning other specializations. Nearly half (46.2 percent) of the surgery women had selected a medical career prior to junior high school, whereas only 18 percent of the women in other specialties had selected medicine at such an early age (P less than .001). Not only did the surgery students select a medical career at an early age, they also reported more confidence in their choices than other students. Respondents who were undecided about an area of specialization were instructed to list their first three choices. Women who selected surgery were more likely to list only one choice of specialization. Over half (51.9 percent) of the surgery students indicated surgery was their only choice of specialization, whereas only 30.2 percent of the women in other specialties were as sure of their choices (P less than .05). According to our findings, differences in desired practice settings can also be found among women medical students in different specialties. Approximately one-fifth (5) of the surgery students indicated an interest in a private solo practice, but only five percent (25) of the women

[2]In the U.S. the median age for first marriage is 22.1 years of age (U.S. Bureau of Census, 1980).

choosing other specialties desired a private solo practice (P less than .001).

Career Orientation

Differences in career orientation were found between women who selected surgery and women who selected other specialties. The surgery students (41 percent) were more likely than others (24 percent) to state that the desire for financial rewards was "very" or "quite important" in making the decision to enter the medical profession (P less than .05).

Respondents were requested to indicate their opinions on issues related to medicine (Table 1). Surgery students were more likely to agree that physicians need to sacrifice their personal life for the sake of their work. Not surprisingly, they were also more likely to disagree that time demands of most medical practices are unreasonable.

(Table 1 about here)

Discussion

The findings of this study indicate differences between women selecting surgery and women selecting other areas of specialization. Several writers have argued that women's overrepresentation is such fields as pediatrics and psychiatry is a realistic appraisal of role expectations and/or their attempt to minimize conflict between their roles as women and their roles as doctors (e.g., Bourne and Wikler, 1978; Davidson, 1979; Quadagno, 1976; Stromberg and Harkess, 1978). The married female medical students may experience more conflict and pressure from professors than their single female cohorts (Bourne and Wikler, 1978). Given the expectations and treatment of the married females, our finding that more surgery students were never married is particularly interesting. It is difficult to break into the male-dominated field of surgery, therefore, the married woman already has a strike against her.

The single marital status of the pre-surgery women should be disucssed with regard to other factors. Women who selected surgery were more likely to have made an early decision to enter

the medical profession (perhaps influenced by their doctor-fathers), were more confident of their specialty choices were willing to sacrifice personal life, and thought the time demands were reasonable. The pre-surgery women had a strong career orientation which could be a factor in their remaining single and choosing surgery. Their willingness to sacrifice time and personal life did not present a role conflict with family roles. Marriage would not impede their career commitment.

An early decision to enter medicine is characteristic of persons who specialize in surgery. Yancik (1977) found a relationship between students' age when they decide to attend medical school and the specialties they eventually select. Our findings are consistent with Yanciks'. The pre-surgery women (46 percent) were similar to all the men in the sample in that by junior-high age nearly half of the males had decided to attend medical school. A smaller percentage of the pre-surgery males (30 percent) had selected medicine at this early age.

Several studies have found that women are less likely than men to be in a private medical practice (Cohen and Korper, 1976; Davidson, 1979; Ginzburg, 1969; Harris and Conley-Muth, 1981; Kutner and Brogan, 1980; Powers, Pamello and Wiesenfelder, 1969) or to be salaried rather than self-employed (Kehrer, 1974; Phelps, 1968). With regard to desired practice setting, even though most of the female respondents in our study also preferred some form of group practice, there was a significant difference according to area of specialization. A private solo practice was appealing to more pre-surgery women than to those choosing other specialties. The female surgery students (20 percent) were more similar to the male surgery students (13 percent) than they were to the other male or female students in their desire for a private solo practice. Only eight percent of all males had indicated an interest in this type of practice. Interestingly, the desire for financial rewards had been very important for the pre-surgery women in deciding to become a doctor. Self-employed doctors can expect to receive

higher incomes than salaried doctors. The percent of female surgery students placing a high value on financial rewards (41 percent) is similar to the percent of all male students (43 percent) and the male surgery students (44 percent) with the same value.

The pre-surgery women in our sample reported a career orientation more similar to the male response than to that of women selecting other specialties. More than half of the males (53.5 percent of all males and 68 percent of the male surgery students) were willing to sacrifice personal life (Burkett and Kurtz, 1981). Fifty-nine percent of the female surgery students shared this value. It could be stated that the pre-surgery women were even more career oriented than the males in some respects. Whereas 63 percent of the pre-surgery women did not think that time demands of medical practices were unreasonable, only 37.3 percent of the male respondents (all males as well as surgery males) shared this view. In this case, the women selecting surgery were dissimilar to their male colleagues, regardless of specialization.

Women who selected surgery were more similar to the male surgery respondents with respect to their confidence in choice of specialization. Whereas slightly over half (52 percent) of the pre-surgery women listed only one choice of specialization, nearly half (43 percent) of the pre-surgery males were as confident of their choice of specialization.

With regards to family background the pre-surgery women were more similar to the males than they were to the other females. The males (14 percent) and especially the pre-surgery males (25 percent) and females 26 percent) were more likely to have fathers who were physicians. These students could have more realistic expectations of the medical field. Homemaker mothers were more prevalent among the males (74 percent) and the male and female surgery students (73 percent and 70 percent respectively). One aspect in which the pre-surgery women were different from the men was in their marital status. A large proportion of all women (65 percent) and an even larger proportion of those selecting surgery (85 percent) were more likely to be never married. The men were less likely to be

never married (36 percent of all men and 38 percent of pre-surgery men). Marriage does not present the same role conflict for male as it does for female medical students. Whereas marriage can be a detriment for the female medical student, it can be an advantage for the male medical student. The married male medical student is not as likely as the female medical student to be perceived as uncommitted.

Female medical students interested in pursuing the male-dominated field of surgery were significantly different from women who selected other areas of specialization. The pre-surgery female students were less likely to experience a marital role conflict, more career oriented, more certain of their selected areas of specialization, and had selected a medical career at an earlier age. In these respects, the females were even more career oriented than males who had chosen the same area of specialization.

Some researchers (Davidson, 1979; Mandelbaum, 1979; Harris and Conley-Muth, 1981; McGrath and Zimet, 1977b) have suggested the possibility of an association between women physicians who select the nontraditional career patterns and the possession of societally defined masculine characteristics. Bell, Sisk and Miller (1980) have suggested that a strong degree of masculinity may be a very important characteristic for persons selecting a surgical specialization. Given the female stereotypes, perhaps the possession of "masculine" characteristics (to an even greater extent than the males) is necessary for the women to succeed in surgery. Because females are not typically encouraged to select a surgical specialization, the female students exhibiting more masculine characteristics may be perceived to be more likely candidates and therefore encouraged in that field. These characteristics should facilitate the women's career path and mitigate a discriminatory environment in this male-dominated field.

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